Amendments

Please add claims 41 and 42 as shown below in the detailed claims list. Claims 2-3, 10-11, and 17 have been previously canceled.

Claim 1 (previously presented). A fuser assembly, comprising:

a roller having a metal heat absorptive outer layer on an inner core of thermally isolating material; and

a radiant heating element positioned adjacent and external to said outer layer of said roller.

Claims 2-3 (canceled).

Claim 4 (previously presented). The fuser assembly according to claim 1 further comprising a temperature transducer configured to detect a surface temperature of said roller.

Claim 5 (previously presented). The fuser assembly according to claim 1 further comprising a heating element controller configured to operate said heating element in response to a temperature of said roller.

Claim 6 (original). The fuser assembly according to claim 5 wherein said controller is further responsive to a quantity of toner applied to a section of media corresponding to a section of said fuser roller heated by said heating element.

Claim 7 (original). The fuser assembly according to claim 1 wherein said radiant heating element comprises:

a heating array; and

a heat deflector disposed to direct at least a portion of heat radiated by said heating array toward said roller.

Claim 8 (original). The fuser assembly according to claim 7 wherein said heat deflector also directs at least a portion of heat radiated by said heating array toward a media to thereby preheat said media prior to engaging said roller.

Claim 9 (previously presented). The fuser assembly according to claim 1 wherein said outer layer has a thickness of between zero and three millimeters.

Claims 10-11 (canceled).

Claim 12 (original). The fusing assembly according to claim 1 further comprising a media preheating element configured to radiationally heat said media prior to being received by said roller.

Claim 13 (original). The fusing assembly according to claim 1 wherein said heating element includes a plurality of longitudinally oriented heating arrays circumferentially spaced along a periphery of said roller.

Claim 14 (previously presented). The fusing assembly according to claim 7 including a controller configured to detect a thermal property of said roller and, in response, dynamically control said heating arrays, wherein said thermal property includes a differential temperature measured on either side of a nip region of said roller.

Claim 15 (previously presented). A heated fuser, comprising:

a fusing roller comprising low thermal mass outer layer surrounding a thermally isolating core;

a pressure roller comprising an elastomeric outer layer, the pressure roller disposed adjacent to the fusing roller;

a pair of temperature sensors configured to measure a temperature differential therebetween; and

a radiant heating device disposed external to said fusing roller and configured to heat said low thermal mass outer layer of said fusing roller to a desired operating temperature.

Clam 16 (previously presented). The heated fuser according to claim 15 wherein said outer layer is metal.

Claim 17 (canceled).

Clam 18 (original). The heated fuser according to claim 15 wherein said radiant heating device is further configured to heat a media prior to said media engaging said fusing roller.

Claim 19 (previously presented). A method of fusing toner onto a media comprising:

heating a fusing roller using only radiant heat directed toward a surface of said fusing roller;

forming a nip region between said fusing roller and a pressure roller, wherein said nip region has an infeed side and an outfeed side;

transporting the media into rolling contact with said fusing roller and through the nip region to simultaneously heat said toner to a desired temperature and apply pressure to the toner causing the toner to fuse to the media; and

detecting a temperature differential between said infeed side and said outfeed side of said nip region.

Claim 20 (previously presented). The method according to claim 19 further comprising:

applying the toner to the media;

radiationally preheating the toner on a portion of the media prior to transporting said media into rolling contact with said fusing roller.

Claim 21 (previously presented). The method according to claim 19 further comprising controlling heating of said fusing roller in response to detecting said temperature differential.

Claim 22 (previously presented). The method according to claim 21 further comprising:

ascertaining an additional parameter; and

controlling heating of said fusing roller in response to ascertaining said additional parameter.

Claim 23 (previously presented). The method according to claim 22 wherein said additional parameter is selected from the group comprising: heat energy required per unit weight of applied toner; heat energy required per unit volume of applied toner; average density of toner to be fused; maximum density of toner to be fused; media speed; heater efficiency; ambient air temperature; and, ambient air humidity.

Claim 24 (previously presented). The method of claim 19, further comprising detecting a media thickness in response to detecting said temperature differential.

Claim 25 (previously presented). The method of claim 19, further comprising heating said pressure roller using only radiant heat directed toward a surface of said pressure roller.

Claim 26 (previously presented). The fuser assembly according to claim 1 wherein said inner core is substantially fabricated from a foamed material or a particulate material.

Claim 27 (previously presented). The fuser assembly according to claim 1, wherein said inner core is substantially fabricated from a material selected from the group comprising: polyurethane; polystyrene; glass fibre; rubber; porcelain; mica; asbestos; cork; kapok; and air.

Claim 28 (previously presented). The fuser assembly according to claim 1 wherein said outer layer is substantially fabricated from a material selected from the group comprising: aluminum; stainless steel; copper; tungsten; metalized rubber; and ceramic.

Claim 29 (previously presented). The fuser assembly according to claim 1 wherein said roller comprises a skeletal inner structure.

Claim 30 (previously presented). The fuser assembly according to claim 29 wherein said skeletal inner structure defines at least one void that is configured to contain air.

Claim 31 (previously presented). The fuser assembly according to claim 29 wherein said skeletal inner structure comprises at least one rib radially extending from a central shaft region to an outer cylindrical portion.

Claim 32 (previously presented). The fuser assembly according to claim 29 wherein said skeletal inner structure comprises at least one spoke radially extending from a central shaft region to an outer cylindrical portion.

Claim 33 (previously presented). The fuser assembly according to claim 13 wherein each of said plurality of heating arrays is configured to be individually controllable.

Claim 34 (previously presented). The fuser assembly according to claim 15, wherein:

said fusing roller and said pressure roller together form a nip region that has an infeed side and an opposite outfeed side;

one of said pair of temperature sensors is positioned proximate said fusing roller and configured to detect a surface temperature thereof on said infeed side of said nip region; and

another of said pair of temperature sensors is positioned proximate said fusing roller and configured to detect a surface temperature thereof on said outfeed side of said nip region.

Claim 35 (previously presented). The fuser assembly according to claim 15, wherein:

said fusing roller and said pressure roller together form a nip region that has an infeed side and an opposite outfeed side;

one of said pair of temperature sensors is positioned proximate said fusing roller and configured to detect a surface temperature thereof on said infeed side of said nip region; and

another of said pair of temperature sensors is positioned proximate said pressure roller and configured to detect a surface temperature thereof on said outfeed side of said nip region.

Claim 36 (previously presented). The fuser assembly according to claim 15, wherein:

said fusing roller and said pressure roller together form a nip region that has an infeed side and an opposite outfeed side;

one of said pair of temperature sensors is positioned proximate said pressure roller and configured to detect a surface temperature thereof on said infeed side of said nip region; and

another of said temperature sensors is positioned proximate said fusing roller and configured to detect a surface temperature thereof on said outfeed side of said nip region.

Claim 37 (previously presented). The fuser assembly according to claim 15, wherein:

said fusing roller and said pressure roller together form a nip region that has an infeed side and an opposite outfeed side;

one of said pair of temperature sensors is positioned proximate said pressure roller and configured to detect a surface temperature thereof on the infeed side of said nip region; and,

another of said pair of temperature sensors is positioned proximate said pressure roller and configured to detect a surface temperature thereof on said outfeed side of said nip region.

Claim 38 (previously presented). The fuser assembly according to claim 18 further comprising an auxiliary media/toner preheat unit configured to heat said media.

Claim 39 (previously added). The fuser assembly according to claim 18 wherein said radiant heating device comprises a heat reflector that defines:

a main aperture configured to direct heat energy therethrough and toward said fusing roller; and

and a second aperture configured to direct heat energy therethrough and toward said media.

Claim 40 (previously presented). The fuser assembly according to claim 7 wherein said heat reflector is substantially fabricated from a foam material.

Claim 41 (new). The fuser assembly according to claim 1 wherein said metal heat absorptive outer layer is a sheet of metal.

Claim 42 (new). The fuser assembly according to claim 1 wherein said metal heat absorptive outer layer is a metallic coating.

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